## DMS, CLS, and DSS L4 changes and RbR parents

This CCR adds Rel A L4s to reflect the design for dealing with product QA as indicated in the SCF ICD [initiated by Richard Meyer]

Revision A changes since original submission:

- 1) dropped links to PGS-0900#A and PGS-0900#B as parents RbRs since these are more about the science software I&T phase, not directly about day to day operations QA
- 2) replaced IMS-0545#B as a parent RbR for S-DMS-33050, S-DMS-33060, S-DMS-33070, S-DMS-33080, and S-CLS-10205 L4s with DADS2380#A and DADS2380#B IMS-0545 is specifically about "searching" processing history which is not done at Rel A; processing history is considered metadata which is the reference in DADS2380

Table 1: Reference table for new L4s and their RbR parents

| L4 ID        | Rel      | RT  | L4 Text                               | Clarificati | RbR ID            | RTM  | RbR Text  | Interpretation |
|--------------|----------|-----|---------------------------------------|-------------|-------------------|------|---|----------------|
|              |          | M   |                                       | on          |                   | key  |   | _              |
|              |          | Key |                                       |             |                   | -    |   |                |
| <u>S-</u>    | <u>A</u> |     | The GTWAY CI shall provide an         |             | SCF-0100#A        | 2425 | The ECS shall have the capability to forward    |                |
| DMS-         |          |     | interface which will permit a user to |             |                   |      | Test Products to the SCF. These products        |                |
| <u>33010</u> |          |     | submit orders for test data and       |             |                   |      | generated by the science software at the ECS    |                |
|              |          |     | science algorithm packages.           |             |                   |      | will require the review of the scientist at the |                |
|              |          |     |                                       |             |                   |      | SCF who submitted the software.                 |                |
| <u>S-</u>    |          |     |                                       |             | SCF-0100#B        | 2426 | The ECS shall have the capability to forward    |                |
| DMS-         |          |     |                                       |             |                   |      | Test Products to the SCF. These products        |                |
| <u>33010</u> |          |     |                                       |             |                   |      | generated by the science software at the ECS    |                |
|              |          |     |                                       |             |                   |      | will require the review of the scientist at the |                |
|              |          |     |                                       |             |                   |      | SCF who submitted the software.                 |                |
| <u>S-</u>    |          |     |                                       |             | DADS2380#A        | 6133 | Each DADS shall send to the SCF, at a           |                |
| <u>DMS-</u>  |          |     |                                       |             |                   |      | minimum, the following:                         |                |
| <u>33010</u> |          |     |                                       |             |                   |      | a. L0-L4  |                |
|              |          |     |                                       |             |                   |      | b. Expedited data                               |                |
|              |          |     |                                       |             |                   |      | d. Metadata                                     |                |
|              |          |     |                                       |             |                   |      | e. Ancillary data                               |                |
|              |          |     |                                       |             |                   |      | f. Calibration data                             |                |
|              |          |     |                                       |             |                   |      | g. Correlative data                             |                |
|              |          |     |                                       |             |                   |      | h. Documents                                    |                |
|              |          |     |                                       |             |                   |      | i. Algorithms                                   |                |
| <u>S-</u>    |          |     |                                       |             | <u>DADS2380#B</u> | 6132 | Each DADS shall send to the SCF, at a           |                |
| DMS-         |          |     |                                       |             |                   |      | minimum, the following:                         |                |
| <u>33010</u> |          |     |                                       |             |                   |      | a. L0-L4  |                |
|              |          |     |                                       |             |                   |      | b. Expedited data                               |                |
|              |          |     |                                       |             |                   |      | c. Special products (L1-L4)                     |                |
|              |          |     |                                       |             |                   |      | d. Metadata                                     |                |
|              |          |     |                                       |             |                   |      | e. Ancillary data                               |                |
|              |          |     |                                       |             |                   |      | f. Calibration data                             |                |
|              |          |     |                                       |             |                   |      | g. Correlative data                             |                |
|              |          |     |                                       |             |                   |      | h. Documents                                    |                |
|              |          |     |                                       |             |                   |      | i. Algorithms                                   |                |

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| <u>S-</u><br><u>DMS-</u><br><u>33020</u>                             | <u>A</u> | The GTWAY CI shall accept orders for test data and science algorithm packages.  | <u>SCF-0100#A</u>                   | 2425                                | The ECS shall have the capability to forward Test Products to the SCF. These products generated by the science software at the ECS will require the review of the scientist at the SCF who submitted the software.   |
|--|----------|---|-------------------------------------|-------------------------------------|--|
| <u>S-</u><br><u>DMS-</u><br><u>33020</u>                             |          |   | <u>SCF-0100#B</u>                   | 2426                                | The ECS shall have the capability to forward Test Products to the SCF. These products generated by the science software at the ECS will require the review of the scientist at the SCF who submitted the software.   |
| S-<br>DMS-<br>33020  |          |   | DADS2380#A                          | 6133                                | Each DADS shall send to the SCF, at a minimum, the following: a. L0-L4 b. Expedited data d. Metadata e. Ancillary data f. Calibration data g. Correlative data h. Documents i. Algorithms  |
| <u>S-</u><br><u>DMS-</u><br><u>33020</u>                             |          |   | DADS2380#B                          | 6132                                | Each DADS shall send to the SCF, at a minimum, the following: a. L0-L4 b. Expedited data c. Special products (L1-L4) d. Metadata e. Ancillary data f. Calibration data g. Correlative data h. Documents i. Algorithms  |
| <u>S-</u><br><u>DMS-</u><br><u>33030</u>                             | A        | The GTWAY CI shall translate the orders for test data and science algorithm packages which it receives into corresponding Distribution Requests for the SDSRV CI. | SCF-0100#A                          | 2425                                | The ECS shall have the capability to forward Test Products to the SCF. These products generated by the science software at the ECS will require the review of the scientist at the SCF who submitted the software.   |
| <u>S-</u><br><u>DMS-</u><br><u>33030</u><br><u>S-</u><br><u>DMS-</u> |          |   | <u>SCF-0100#B</u> <u>DADS2380#A</u> | <ul><li>2426</li><li>6133</li></ul> | The ECS shall have the capability to forward Test Products to the SCF. These products generated by the science software at the ECS will require the review of the scientist at the SCF who submitted the software. Each DADS shall send to the SCF, at a minimum, the following: |
| 33030  |          |   |                                     |                                     | a. L0-L4 b. Expedited data d. Metadata e. Ancillary data f. Calibration data g. Correlative data h. Documents i. Algorithms  |

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| <u>S-</u><br><u>DMS-</u><br><u>33030</u> |          |   | DADS2380#1 | B   6132      | Each DADS shall send to the SCF, at a minimum, the following: a. L0-L4 b. Expedited data c. Special products (L1-L4) d. Metadata e. Ancillary data f. Calibration data g. Correlative data h. Documents i. Algorithms          |  |
|--|----------|---|------------|---------------|--|--|
| <u>S-</u><br><u>DMS-</u><br><u>33040</u> | A        | The GTWAY CI shall submit orders for test data and science algorithm packages as Distribution Requests to the SDSRV CI.   | SCF-0100#A | 2425          | The ECS shall have the capability to forward Test Products to the SCF. These products generated by the science software at the ECS will require the review of the scientist at the SCF who submitted the software.             |  |
| <u>S-</u><br><u>DMS-</u><br><u>33040</u> |          |   | SCF-0100#B | 2426          | The ECS shall have the capability to forward Test Products to the SCF. These products generated by the science software at the ECS will require the review of the scientist at the SCF who submitted the software.             |  |
| <u>S-</u><br><u>DMS-</u><br><u>33040</u> |          |   | DADS2380#. | <u>A</u> 6133 | Each DADS shall send to the SCF, at a minimum, the following: a. L0-L4 b. Expedited data d. Metadata e. Ancillary data f. Calibration data g. Correlative data h. Documents i. Algorithms                                      |  |
| <u>S-</u><br><u>DMS-</u><br>33040        |          |   | DADS2380#  | B 6132        | Each DADS shall send to the SCF, at a minimum, the following: a. L0-L4 b. Expedited data c. Special products (L1-L4) d. Metadata e. Ancillary data f. Calibration data g. Correlative data h. Documents i. Algorithms          |  |
| <u>S-</u><br><u>DMS-</u><br><u>33050</u> | <u>A</u> | The GTWAY CI shall accept in the V0 processing options, instructions to provide production history information and the ancillary input data associated with a granule, for the granules listed in the V0 request. | SCF-0380#A | 2473          | The SCF shall have the capability to send a Request for Product History (including the algorithms used) to the ECS for the history of data products that the SCF specifies.  |  |
| <u>S-</u><br><u>DMS-</u><br><u>33050</u> |          |   | SCF-0310#A | 2458          | The ECS shall have the capability to receive Calibration Coefficient Requests from the SCF. The current or past calibration coefficients used in processing of instrument data may be requested by the scientist from the ECS. |  |

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| C                 |               |                                       | CCE 0200#D                                  | 2474 | The CCE shall have the comphility to send a   |
|-------------------|---------------|---------------------------------------|---|------|---|
| S-                |               |                                       | <u>SCF-0380#B</u>                           | 2474 |   |
| <u>DMS-</u>       |               |                                       |   |      | Request for Product History (including the    |
| <u>33050</u>      |               |                                       |   |      | algorithms used) to the ECS for the history   |
|                   |               |                                       |   |      | of data products that the SCF specifies.      |
| <u>S-</u>         |               |                                       | <u>SCF-0310#B</u>                           | 2459 | The ECS shall have the capability to receive  |
| <u>DMS-</u>       |               |                                       |   |      | Calibration Coefficient Requests from the     |
| <u>33050</u>      |               |                                       |   |      | SCF. The current or past calibration          |
|                   |               |                                       |   |      | coefficients used in processing of instrument |
|                   |               |                                       |   |      | data may be requested by the scientist from   |
|                   |               |                                       |   |      | the ECS.                                      |
| <u>S-</u>         |               |                                       | DADS2380#A                                  | 6133 | Each DADS shall send to the SCF, at a         |
| DMS-              |               |                                       | <u></u>                                     | 0100 | minimum, the following:                       |
| 33050             |               |                                       |   |      | a. L0-L4                                      |
| 33030             |               |                                       |   |      | b. Expedited data                             |
|                   |               |                                       |   |      | d. Metadata                                   |
|                   |               |                                       |   |      | e. Ancillary data                             |
|                   |               |                                       |   |      | f. Calibration data                           |
|                   |               |                                       |   |      |   |
|                   |               |                                       |   |      | g. Correlative data                           |
|                   |               |                                       |   |      | h. Documents                                  |
|                   | $\longmapsto$ |                                       | D. 1 D. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | 4465 | i. Algorithms                                 |
| <u>S-</u>         |               |                                       | <u>DADS2380#B</u>                           | 6132 | Each DADS shall send to the SCF, at a         |
| DMS-              |               |                                       |   |      | minimum, the following:                       |
| <u>33050</u>      |               |                                       |   |      | a. L0-L4                                      |
|                   |               |                                       |   |      | b. Expedited data                             |
|                   |               |                                       |   |      | c. Special products (L1-L4)                   |
|                   |               |                                       |   |      | d. Metadata                                   |
|                   |               |                                       |   |      | e. Ancillary data                             |
|                   |               |                                       |   |      | f. Calibration data                           |
|                   |               |                                       |   |      | g. Correlative data                           |
|                   |               |                                       |   |      | h. Documents                                  |
|                   |               |                                       |   |      | i. Algorithms                                 |
| <u>S-</u>         | A             | The GTWAY CI shall parse the V0       | SCF-0380#A                                  | 2473 | The SCF shall have the capability to send a   |
| DMS-              | Δ.            | processing options and translate      | <u>3C1*-0360πA</u>                          | 2473 | Request for Product History (including the    |
| 33060             |               | requests for production history       |   |      |   |
| <u>33000</u>      |               |                                       |   |      | algorithms used) to the ECS for the history   |
|                   |               | information and ancillary input data  |   |      | of data products that the SCF specifies.      |
|                   |               | contained in these options into       |   |      |   |
|                   |               | corresponding orders for production   |   |      |   |
|                   |               | history and ancillary data to the     |   |      |   |
|                   |               | SDSRV CI, ensuring that no            |   |      |   |
|                   |               | duplicate history files and ancillary |   |      |   |
|                   |               | granules are being ordered (e.g., if  |   |      |   |
|                   |               | the same history file is referenced   |   |      |   |
|                   |               | by several of the granules listed in  |   |      |   |
|                   |               | the V0 request).                      |   |      |   |
| <u>S-</u>         |               | -                                     | SCF-0310#A                                  | 2458 | The ECS shall have the capability to receive  |
| DMS-              |               |                                       |   |      | Calibration Coefficient Requests from the     |
| 33060             |               |                                       |   |      | SCF. The current or past calibration          |
|                   |               |                                       |   |      | coefficients used in processing of instrument |
|                   |               |                                       |   |      | data may be requested by the scientist from   |
|                   |               |                                       |   |      | the ECS.                                      |
| S                 | $\vdash$      |                                       | SCF-0380#B                                  | 2474 |   |
| <u>S-</u><br>DMS- |               |                                       | PC10200#D                                   | 2414 | Request for Product History (including the    |
|                   |               |                                       |   |      |   |
| <u>33060</u>      |               |                                       |   |      | algorithms used) to the ECS for the history   |
| 1                 |               |                                       |   |      | of data products that the SCF specifies.      |

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| <u>S-</u><br><u>DMS-</u><br><u>33060</u> |          |   | <u>SCF-0310#B</u> | 2459 | The ECS shall have the capability to receive Calibration Coefficient Requests from the SCF. The current or past calibration coefficients used in processing of instrument data may be requested by the scientist from the ECS. |  |
|--|----------|---|-------------------|------|--|--|
| <u>S-</u><br><u>DMS-</u><br><u>33060</u> |          |   | DADS2380#A        | 6133 | Each DADS shall send to the SCF, at a minimum, the following: a. L0-L4 b. Expedited data d. Metadata e. Ancillary data f. Calibration data g. Correlative data h. Documents i. Algorithms                                      |  |
| S-<br>DMS-<br>33060                      |          |   | DADS2380#B        | 6132 | Each DADS shall send to the SCF, at a minimum, the following: a. L0-L4 b. Expedited data c. Special products (L1-L4) d. Metadata e. Ancillary data f. Calibration data g. Correlative data h. Documents i. Algorithms          |  |
| <u>S-</u><br><u>DMS-</u><br><u>33070</u> | <u>A</u> | The GTWAY CI shall submit orders for production history and ancillary data to the SDSRV CI. | SCF-0320#A        | 2460 | The ECS shall be capable of sending to the SCF calibration Coefficients. These shall include the calibration coefficients requested by the scientist at the SCF in the Calibration Coefficient Request.                        |  |
| <u>S-</u><br><u>DMS-</u><br><u>33070</u> |          |   | SCF-0310#A        | 2458 | The ECS shall have the capability to receive Calibration Coefficient Requests from the SCF. The current or past calibration coefficients used in processing of instrument data may be requested by the scientist from the ECS. |  |
| <u>S-</u><br><u>DMS-</u><br><u>33070</u> |          |   | SCF-0320#B        | 2461 | The ECS shall be capable of sending to the SCF Calibration Coefficients. These shall include the calibration coefficients requested by the scientist at the SCF in the Calibration Coefficient Request.                        |  |
| <u>S-</u><br><u>DMS-</u><br><u>33070</u> |          |   | SCF-0310#B        | 2459 | The ECS shall have the capability to receive Calibration Coefficient Requests from the SCF. The current or past calibration coefficients used in processing of instrument data may be requested by the scientist from the ECS. |  |

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| _            |          |    |                                       |                   |      |   |  |
|--------------|----------|----|---------------------------------------|-------------------|------|---|--|
| <u>S-</u>    |          |    |                                       | DADS2380#A        | 6133 | Each DADS shall send to the SCF, at a       |  |
| DMS-         |          |    |                                       |                   |      | minimum, the following:                     |  |
| 33070        |          |    |                                       |                   |      | a. L0-L4                                    |  |
| <u>22070</u> |          |    |                                       |                   |      | b. Expedited data                           |  |
|              |          |    |                                       |                   |      |   |  |
|              |          |    |                                       |                   |      | d. Metadata                                 |  |
|              |          |    |                                       |                   |      | e. Ancillary data                           |  |
|              |          |    |                                       |                   |      | f. Calibration data                         |  |
|              |          |    |                                       |                   |      | g. Correlative data                         |  |
|              |          |    |                                       |                   |      | h. Documents                                |  |
|              |          |    |                                       |                   |      | i. Algorithms                               |  |
| ~            |          |    |                                       | D + D 0000000     |      |   |  |
| <u>S-</u>    |          |    |                                       | <u>DADS2380#B</u> | 6132 | Each DADS shall send to the SCF, at a       |  |
| DMS-         |          |    |                                       |                   |      | minimum, the following:                     |  |
| 33070        |          |    |                                       |                   |      | a. L0-L4                                    |  |
|              |          |    |                                       |                   |      | b. Expedited data                           |  |
|              |          |    |                                       |                   |      | c. Special products (L1-L4)                 |  |
|              |          |    |                                       |                   |      | d. Metadata                                 |  |
|              |          |    |                                       |                   |      |   |  |
|              |          |    |                                       |                   |      | e. Ancillary data                           |  |
|              |          |    |                                       |                   |      | f. Calibration data                         |  |
|              |          |    |                                       |                   |      | g. Correlative data                         |  |
|              |          |    |                                       |                   |      | h. Documents                                |  |
|              |          |    |                                       |                   |      | i. Algorithms                               |  |
| C            | Α.       |    | If the V0 processing options specify  | SCF-0380#A        | 2473 | The SCF shall have the capability to send a |  |
| S-<br>DMS-   | <u>A</u> |    |                                       | 3CF-0360#A        | 24/3 |   |  |
| DMS-         |          |    | an order for production history, the  |                   |      | Request for Product History                 |  |
| <u>33080</u> |          |    | GTWAY CI shall also submit a          |                   |      | (including the algorithms used) to the ECS  |  |
|              |          |    | guery to the SDSRV CI to obtain       |                   |      | for the history of data products            |  |
|              |          |    | the PGE name, PGE version,            |                   |      | that the SCF specifies.                     |  |
|              |          |    | ancillary granule Ids, orbit          |                   |      | · · · · · · · · · · · · · · · · · · ·       |  |
|              |          |    | parameter file references, and a list |                   |      |   |  |
|              |          |    | parameter me references, and a fist   |                   |      |   |  |
|              |          |    | of input granule IDs, for each of the |                   |      |   |  |
|              |          |    | granules listed in the V0 request,    |                   |      |   |  |
|              |          |    | and return the result via e-mail.     |                   |      |   |  |
| <u>S-</u>    |          |    |                                       | SCF-0380#B        | 2474 | The SCF shall have the capability to send a |  |
| DMS-         |          |    |                                       |                   |      | Request for Product History (including the  |  |
| 33080        |          |    |                                       |                   |      | algorithms used) to the ECS for the history |  |
| 22000        |          |    |                                       |                   |      |   |  |
|              | <b></b>  |    |                                       | D + D ((2000)" :  | (122 | of data products that the SCF specifies.    |  |
| <u>S-</u>    |          |    |                                       | <u>DADS2380#A</u> | 6133 | Each DADS shall send to the SCF, at a       |  |
| <u>DMS-</u>  |          |    |                                       |                   |      | minimum, the following:                     |  |
| 33080        |          |    |                                       |                   |      | a. L0-L4                                    |  |
|              |          |    |                                       |                   |      | b. Expedited data                           |  |
|              |          |    |                                       |                   |      | d. Metadata                                 |  |
|              |          |    |                                       |                   |      | e. Ancillary data                           |  |
|              |          |    |                                       |                   |      |   |  |
|              |          |    |                                       |                   |      | f. Calibration data                         |  |
|              |          |    |                                       |                   |      | g. Correlative data                         |  |
|              |          |    |                                       |                   |      | h. Documents                                |  |
|              |          |    |                                       |                   |      | i. Algorithms                               |  |
|              |          | l) | l l                                   |                   |      |   |  |

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| <u>S-</u><br><u>DMS-</u><br><u>33080</u> |          |   |                                   | DADS2380#B        | 6132 | Each DADS shall send to the SCF, at a minimum, the following: a. L0-L4 b. Expedited data c. Special products (L1-L4) d. Metadata e. Ancillary data f. Calibration data g. Correlative data  |  |
|--|----------|---|-----------------------------------|-------------------|------|---|--|
| <u>S-CLS-</u><br>10205                   | <u>A</u> | The WKBCH CI shall display the PGE name, PGE version, ancillary granule Ids, orbit parameter file references, and list of input granule | Satisfied<br>by e-mail<br>viewer. | SCF-0380#A        | 2473 | h. Documents i. Algorithms  The SCF shall have the capability to send a Request for Product History (including the algorithms used) to the ECS for the history of data products   |  |
| g gr g                                   |          | Ids returned by the GTWAY CI in response to a request for production history information.   |                                   | age ogooup        | 2454 | that the SCF specifies.   |  |
| <u>S-CLS-</u><br>10205                   |          |   |                                   | <u>SCF-0380#B</u> | 2474 | The SCF shall have the capability to send a Request for Product History (including the algorithms used) to the ECS for the history of data products that the SCF specifies.   |  |
| <u>S-CLS-</u><br>10205                   |          |   |                                   | DADS2380#A        | 6133 | Each DADS shall send to the SCF, at a minimum, the following: a. L0-L4 b. Expedited data d. Metadata e. Ancillary data f. Calibration data g. Correlative data h. Documents i. Algorithms   |  |
| S-CLS-<br>10205                          |          |   |                                   | DADS2380#B        | 6132 | Each DADS shall send to the SCF, at a minimum, the following: a. L0-L4 b. Expedited data c. Special products (L1-L4) d. Metadata e. Ancillary data f. Calibration data g. Correlative data h. Documents i. Algorithms   |  |
| <u>S-</u><br><u>DMS-</u><br><u>33100</u> | A        | The GTWAY CI shall provide an HTML form ("QA metadata update form") which permits SCF users to update QA metadata.                      |                                   | SCF-0250#A        | 2448 | The ECS shall have the capability to receive Metadata Updates from the SCF. These shall include the science QA codes and optionally a report describing the results of product QA and any further instructions to the ECS. The ECS shall only accept Metadata Updates when they are received after the time allotment specified in the Data Quality Request Notification. |  |

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| S-<br>DMS-<br>33100                      | SCF-0240#A | 2446 | The ECS shall have the capability to receive an On Time QA from the SCF. This shall consist of the science QA codes describing the results of product QA and any further instructions to the ECS. The ECS shall accept the On Time QA when it is received within the time-out period specified in the Data Quality Request Notification.ECS shall accept post-time-out QA updates as Metadata Updates as specifiedby Requirement SCF-0250.   |
|--|------------|------|--|
| <u>S-</u><br><u>DMS-</u><br><u>33100</u> | SCF-0250#B | 2449 | The ECS shall have the capability to receive Metadata Updates from the SCF. These shall include the science QA codes and optionally a report describing the results of product QA and any further instructions to the ECS. The ECS shall only accept Metadata Updates when they are received after the time allotment specified in the Data Quality Request Notification.  |
| <u>S-</u><br><u>DMS-</u><br><u>33100</u> | SCF-0240#B | 2447 | The ECS shall have the capability to receive an On Time QA from the SCF. This shall consist of the science QA codes describing the results of product QA and any further instructions to the ECS. The ECS shall accept the On Time QA when it is received within the time-out period specified in the Data Quality Request Notification. ECS shall accept post-time-out QA updates as Metadata Updates as specified by Requirement SCF-0250. |
| S-<br>DMS-<br>33100                      | PGS-1130#A | 4252 | The PGS shall receive product QA from the SCF which shall describe the results of the scientists product quality review at an SCF. Product QA shall contain the following information at a minimum: a. Identification of product b. QA results c. Product storage and processing instructions  |
| <u>S-</u><br><u>DMS-</u><br><u>33100</u> | PGS-1130#B | 4982 | The PGS shall receive product QA from the SCF which shall describe the results of the scientists product quality review at an SCF. Product QA shall contain the following information at a minimum: a. Identification of product b. QA results c. Product storage and processing instructions  |

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| <u>S-</u><br><u>DMS-</u><br><u>33110</u> | <u>A</u> | The GTWAY CI shall parse the QA metadata updates submitted via the QA metadata update form and translate them into insert requests for a database table (QA metadata holding table). | <u>SCF-0250#A</u> | 2448 | The ECS shall have the capability to receive Metadata Updates from the SCF. These shall include the science QA codes and optionally a report describing the results of product QA and any further instructions to the ECS. The ECS shall only accept Metadata Updates when they are received after the time allotment specified in the Data Quality Request Notification.  |
|--|----------|--|-------------------|------|--|
| <u>S-</u><br><u>DMS-</u><br><u>33110</u> |          |  | SCF-0240#A        | 2446 | The ECS shall have the capability to receive an On Time QA from the SCF. This shall consist of the science QA codes describing the results of product QA and any further instructions to the ECS. The ECS shall accept the On Time QA when it is received within the time-out period specified in the Data Quality Request Notification.ECS shall accept post-time-out QA updates as Metadata Updates as specifiedby Requirement SCF-0250.   |
| <u>S-</u><br><u>DMS-</u><br><u>33110</u> |          |  | SCF-0250#B        | 2449 | The ECS shall have the capability to receive Metadata Updates from the SCF. These shall include the science QA codes and optionally a report describing the results of product QA and any further instructions to the ECS. The ECS shall only accept Metadata Updates when they are received after the time allotment specified in the Data Quality Request Notification.  |
| <u>S-</u><br><u>DMS-</u><br><u>33110</u> |          |  | SCF-0240#B        | 2447 | The ECS shall have the capability to receive an On Time QA from the SCF. This shall consist of the science QA codes describing the results of product QA and any further instructions to the ECS. The ECS shall accept the On Time QA when it is received within the time-out period specified in the Data Quality Request Notification. ECS shall accept post-time-out QA updates as Metadata Updates as specified by Requirement SCF-0250. |
| <u>S-</u><br><u>DMS-</u><br><u>33110</u> |          |  | PGS-1130#A        | 4252 | The PGS shall receive product QA from the SCF which shall describe the results of the scientists product quality review at an SCF. Product QA shall contain the following information at a minimum: a. Identification of product b. QA results c. Product storage and processing instructions  |

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| <u>S-</u><br><u>DMS-</u><br><u>33110</u> |   |                                 |  | PGS-1130#B        | 4982 | The PGS shall receive product QA from the SCF which shall describe the results of the scientists product quality review at an SCF. Product QA shall contain the following information at a minimum:  a. Identification of product b. QA results c. Product storage and processing instructions   |
|--|---|---------------------------------|--|-------------------|------|--|
| <u>S-</u><br><u>DMS-</u><br><u>33120</u> | A | mai<br>add<br>ope<br>the<br>and | e GTWAY CI shall send an e-<br>il notification to an e-mail<br>dress configurable by ECS<br>erations, notifying the recipient of<br>arrival of QA metadata updates,<br>d the products and granules<br>ected. | <u>SCF-0250#A</u> | 2448 | The ECS shall have the capability to receive Metadata Updates from the SCF. These shall include the science QA codes and optionally a report describing the results of product QA and any further instructions to the ECS. The ECS shall only accept Metadata Updates when they are received after the time allotment specified in the Data Quality Request Notification.  |
| <u>S-</u><br><u>DMS-</u><br><u>33120</u> |   |                                 |  | SCF-0240#A        | 2446 | The ECS shall have the capability to receive an On Time QA from the SCF. This shall consist of the science QA codes describing the results of product QA and any further instructions to the ECS. The ECS shall accept the On Time QA when it is received within the time-out period specified in the Data Quality Request Notification. ECS shall accept post-time-out QA updates as Metadata Updates as specifiedby Requirement SCF-0250.  |
| S-<br>DMS-<br>33120                      |   |                                 |  | SCF-0250#B        | 2449 | The ECS shall have the capability to receive Metadata Updates from the SCF. These shall include the science QA codes and optionally a report describing the results of product QA and any further instructions to the ECS. The ECS shall only accept Metadata Updates when they are received after the time allotment specified in the Data Quality Request Notification.  |
| <u>S-</u><br><u>DMS-</u><br><u>33120</u> |   |                                 |  | SCF-0240#B        | 2447 | The ECS shall have the capability to receive an On Time QA from the SCF. This shall consist of the science QA codes describing the results of product QA and any further instructions to the ECS. The ECS shall accept the On Time QA when it is received within the time-out period specified in the Data Quality Request Notification. ECS shall accept post-time-out QA updates as Metadata Updates as specified by Requirement SCF-0250. |

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| <u>S-</u><br><u>DMS-</u><br><u>33120</u> |   |   | <u>PGS-1130#A</u> |      | The PGS shall receive product QA from the SCF which shall describe the results of the scientists product quality review at an SCF. Product QA shall contain the following information at a minimum: a. Identification of product b. QA results c. Product storage and processing instructions   |  |
|--|---|---|-------------------|------|---|--|
| S-<br>DMS-<br>33120                      |   |   | PGS-1130#B        |      | The PGS shall receive product QA from the SCF which shall describe the results of the scientists product quality review at an SCF. Product QA shall contain the following information at a minimum: a. Identification of product b. QA results c. Product storage and processing instructions   |  |
| S-<br>DMS-<br>33130                      | A | The GTWAY CI shall insert the QA updates it receives into a database table (QA metadata holding table). | SCF-0250#A        | 2448 | The ECS shall have the capability to receive Metadata Updates from the SCF. These shall include the science QA codes and optionally a report describing the results of product QA and any further instructions to the ECS. The ECS shall only accept Metadata Updates when they are received after the time allotment specified in the Data Quality Request Notification.   |  |
| S-<br>DMS-<br>33130                      |   |   | SCF-0240#A        | 2446 | The ECS shall have the capability to receive an On Time QA from the SCF. This shall consist of the science QA codes describing the results of product QA and any further instructions to the ECS. The ECS shall accept the On Time QA when it is received within the time-out period specified in the Data Quality Request Notification. ECS shall accept post-time-out QA updates as Metadata Updates as specifiedby Requirement SCF-0250. |  |
| <u>S-</u><br><u>DMS-</u><br><u>33130</u> |   |   | SCF-0250#B        | 2449 | The ECS shall have the capability to receive Metadata Updates from the SCF. These shall include the science QA codes and optionally a report describing the results of product QA and any further instructions to the ECS. The ECS shall only accept Metadata Updates when they are received after the time allotment specified in the Data Quality Request Notification.   |  |

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| <u>S-</u><br><u>DMS-</u><br><u>33130</u> |   |      |   | SCF-0240#B | 2447 | The ECS shall have the capability to receive an On Time QA from the SCF. This shall consist of the science QA codes describing the results of product QA and any further instructions to the ECS. The ECS shall accept the On Time QA when it is received within the time-out period specified in the Data Quality Request Notification. ECS shall accept post-time-out QA updates as Metadata Updates as specified by Requirement SCF-0250. |  |
|--|---|------|---|------------|------|--|--|
| <u>S-</u><br><u>DMS-</u><br><u>33130</u> |   |      |   | PGS-1130#A | 4252 | The PGS shall receive product QA from the SCF which shall describe the results of the scientists product quality review at an SCF. Product QA shall contain the following information at a minimum: a. Identification of product b. QA results c. Product storage and processing instructions  |  |
| <u>S-</u><br><u>DMS-</u><br><u>33130</u> |   |      |   | PGS-1130#B | 4982 | The PGS shall receive product QA from the SCF which shall describe the results of the scientists product quality review at an SCF. Product QA shall contain the following information at a minimum:  a. Identification of product  b. QA results  c. Product storage and processing instructions   |  |
| S-DSS-<br>04595                          | A | 9834 | The SDSRV CI shall be capable of receiving QA metadata updates from the DESKT CI. | PGS-1130#A | 4252 | The PGS shall receive product QA from the SCF which shall describe the results of the scientists product quality review at an SCF. Product QA shall contain the following information at a minimum: a. Identification of product b. QA results c. Product storage and processing instructions  | A: CERES,<br>LIS Metadata<br>= Product ID,<br>QA results,<br>Product<br>Storage and<br>Processing<br>Instructions. |
| S-DSS-<br>04595                          |   |      |   | PGS-1130#B | 4982 | The PGS shall receive product QA from the SCF which shall describe the results of the scientists product quality review at an SCF. Product QA shall contain the following information at a minimum: a. Identification of product b. QA results c. Product storage and processing instructions  |  |

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| S-DSS- 04596  The SDSRV shall provide the capability to allow DAAC operations personnel to approve the QA metadata update.  PGS-1130#B  4982  The PGS shall receive product QA SCF which shall describe the result of the scientists product quality revises. SCF. Product QA shall contain the following information at a minimum a. Identification of product b. QA results c. Product storage and processing instructions  S-DSS-  PGS-1130#B  4982  The PGS shall receive product QA SCF which shall describe the results of the scientists product quality revises. CF. Product QA scentists product quality revises. CF. Product SCF. Product storage and processing instructions  | s<br>ew at an         |
|--|-----------------------|
| operations personnel to approve the QA metadata update.  SCF which shall describe the result of the scientists product quality revises. SCF. Product QA shall contain the following information at a minimum a. Identification of product b. QA results c. Product storage and processing instructions   | s<br>ew at an         |
| QA metadata update.  of the scientists product quality reviser. Product QA shall contain the following information at a minimuma. Identification of product b. QA results c. Product storage and processing instructions   | ew at an              |
| SCF. Product QA shall contain the following information at a minimur a. Identification of product b. QA results c. Product storage and processing instructions   |                       |
| following information at a minimur a. Identification of product b. QA results c. Product storage and processing instructions   |                       |
| a. Identification of product b. QA results c. Product storage and processing instructions  | n:                    |
| b. QA results c. Product storage and processing instructions   |                       |
| c. Product storage and processing instructions   |                       |
| instructions   |                       |
|  |                       |
| S-DSS- PGS-1130#A 4252   |                       |
|  | A: CERES,             |
| O4596 The PGS shall receive product QA   | from the LIS Metadata |
| SCF which shall describe the result  | s = Product ID,       |
| of the scientists product quality revi   | ew at an OA results,  |
| SCF. Product QA shall contain the  |                       |
| following information at a minimur   |                       |
| a. Identification of product   | Processing            |
| b. QA results  | Instructions.         |
| c. Product storage and processing  | mstructions.          |
| instructions   |                       |
| S-DSS- A The SDSRV CI shall provide a SCF-0250#A 2448 The ECS shall have the capability to   | racaiva               |
| S-DSS-   A   The SDSR v C1 shall plovide a   SC1-0230#A   2448   The EC3 shall have the capability it   04597   Motif GUI which permits DAAC   Metadata Updates from the SCF. The scale of the scale o |                       |
|  |                       |
| operators to view pending QA include the science QA codes and o  |                       |
| updates in the QA metadata holding a report describing the results of pro  |                       |
| table, select entries for approval, and any further instructions to the E  |                       |
| approve the selected entries for ECS shall only accept Metadata Up   |                       |
| insertion into the product inventory. when they are received after the time  |                       |
| allotment specified in the Data Qual   | ity                   |
| Request Notification.  |                       |
| S-DSS- SCF-0240#A 2446 The ECS shall have the capability to  | receive               |
| an On Time QA from the SCF. Thi  | s shall               |
| consist of the science QA codes des  | cribing               |
| the results of product QA and any f  |                       |
| instructions to the ECS. The ECS sl  | hall                  |
| accept the On Time QA when it is r   |                       |
| within the time-out period specified   |                       |
| Data Quality Request Notification.   |                       |
| accept post-time-out QA updates as   |                       |
|  |                       |
| Updates as specifiedby Requiremer 0250.  | n scr-                |
|  | racciva               |
|  |                       |
|  | iese siiaii           |
| include the science QA codes and of  | puonally              |
| a report describing the results of pro   |                       |
| and any further instructions to the E  |                       |
| ECS shall only accept Metadata Up  |                       |
| when they are received after the time  |                       |
| allotment specified in the Data Qual   | ity                   |
| Request Notification.  |                       |

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|              | $\overline{}$   |  |                    |       |  |
|--------------|-----------------|--|--------------------|-------|--|
| S-DSS-       | 1               |  | SCF-0240#B         | 2447  | The ECS shall have the capability to receive   |
| <u>04597</u> | 1               |  |                    |       | an On Time QA from the SCF. This shall         |
|              | 1               |  |                    |       | consist of the science QA codes describing     |
|              | 1               |  |                    |       | the results of product QA and any further      |
|              | 1               |  |                    |       | instructions to the ECS. The ECS shall         |
|              | 1               |  |                    |       | accept the On Time QA when it is received      |
|              | 1 1             |  |                    |       | within the time-out period specified in the    |
|              | 1 1             |  |                    |       | Data Quality Request Notification. ECS shall   |
|              | 1               |  |                    |       | accept post-time-out QA updates as Metadata    |
|              | 1 1             |  |                    |       | Updates as specified by Requirement SCF-       |
|              | 1               |  |                    |       |  |
| G D G G      | $\longmapsto$   |  | D + D 00010#4      | 20.40 | 0250.  |
| S-DSS-       | 1 1             |  | <u>DADS0010#A</u>  | 3940  | Each DADS shall receive updated metadata       |
| <u>04597</u> | ш               |  |                    |       | for products that have been QA'd.              |
| S-DSS-       | 1 1             |  | <u>DADS0010#B</u>  | 3458  | Each DADS shall receive updated metadata       |
| <u>04597</u> | 1 1             |  |                    |       | for products that have been QA'd.              |
| S-DSS-       |                 |  | DADS0020#A         | 3947  | Each DADS shall, upon receipt of updated       |
| 04597        | i l             |  |                    |       | metadata for products which have been          |
|              | i               |  |                    |       | QA'd, store the metadata in its inventory.     |
| S-DSS-       | $\Box$          |  | DADS0020#B         | 3459  | Each DADS shall, upon receipt of updated       |
| 04597        | 1 1             |  | <u>D/1DS0020#B</u> | 3437  | metadata for products which have been          |
| <u>04371</u> | 1 1             |  |                    |       | OA'd, store the metadata in its inventory.     |
| S-DSS-       | $\vdash \vdash$ |  | PGS-1130#A         | 4252  | The PGS shall receive product QA from the      |
|              | 1 1             |  | PGS-1130#A         | 4232  |  |
| <u>04597</u> | 1 1             |  |                    |       | SCF which shall describe the results of the    |
|              | 1               |  |                    |       | scientists product quality review at an SCF.   |
|              | 1               |  |                    |       | Product QA shall contain the following         |
|              | 1               |  |                    |       | information at a minimum:                      |
|              | 1 1             |  |                    |       | a. Identification of product                   |
|              | 1 1             |  |                    |       | b. QA results                                  |
|              | 1               |  |                    |       | c. Product storage and processing              |
|              | 1               |  |                    |       | instructions                                   |
| S-DSS-       |                 |  | PGS-1130#B         | 4982  | The PGS shall receive product QA from the      |
| 04597        | 1               |  |                    |       | SCF which shall describe the results of the    |
|              | ı l             |  |                    |       | scientists product quality review at an SCF.   |
|              | i l             |  |                    |       | Product QA shall contain the following         |
|              | i l             |  |                    |       | information at a minimum:                      |
|              | i               |  |                    |       | a. Identification of product                   |
|              | i               |  |                    |       | b. QA results                                  |
|              | i               |  |                    |       | D. QA ICSUIIS                                  |
|              | i l             |  |                    |       | c. Product storage and processing              |
| a 5          | $\vdash$        | The apparent of the second             | a an a a           |       | instructions                                   |
| S-DSS-       | <u>A</u>        | The SDSRV CI shall transfer QA         | SCF-0250#A         | 2448  | The ECS shall have the capability to receive   |
| <u>04598</u> | i l             | updates from the QA metadata           |                    |       | Metadata Updates from the SCF. These shall     |
|              | i l             | holding table into the inventory table |                    |       | include the science QA codes and optionally    |
|              | i               | after they have been approved for      |                    |       | a report describing the results of product QA  |
|              | ı               | insertion.                             |                    |       | and any further instructions to the ECS. The   |
|              | i l             | <u> </u>                               |                    |       | ECS shall only accept Metadata Updates         |
|              | ı               |  |                    |       | when they are                                  |
|              | ı               |  |                    |       | received after the time allotment specified in |
|              | ı               |  |                    |       | the Data Quality Request Notification.         |
|              |                 |  |                    |       | the Data Quality Request Notification.         |

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| S-DSS-       |  |  | SCF-0250#B         | 2449 | The ECS shall have the capability to receive  |
|--------------|--|--|--------------------|------|---|
| <u>04598</u> |  |  |                    |      | Metadata Updates from the SCF. These shall    |
|              |  |  |                    |      | include the science QA codes and optionally   |
|              |  |  |                    |      | a report describing the results of product QA |
|              |  |  |                    |      | and any further instructions to the ECS. The  |
|              |  |  |                    |      | ECS shall only accept Metadata Updates        |
|              |  |  |                    |      | when they are received after the time         |
|              |  |  |                    |      | allotment specified in the Data Quality       |
|              |  |  |                    |      | Request Notification.                         |
| S-DSS-       |  |  | <u>D</u> ADS0010#A | 3940 | Each DADS shall receive updated metadata      |
| <u>04598</u> |  |  |                    |      | for products that have been QA'd.             |
| S-DSS-       |  |  | DADS0010#B         | 3458 | Each DADS shall receive updated metadata      |
| <u>04598</u> |  |  |                    |      | for products that have been QA'd.             |
| S-DSS-       |  |  | <u>D</u> ADS0020#A | 3947 | Each DADS shall, upon receipt of updated      |
| <u>04598</u> |  |  |                    |      | metadata for products which have been         |
|              |  |  |                    |      | QA'd, store the metadata in its inventory.    |
| S-DSS-       |  |  | DADS0020#B         | 3459 | Each DADS shall, upon receipt of updated      |
| 04598        |  |  |                    |      | metadata for products which have been         |
|              |  |  |                    |      | QA'd, store the metadata in its inventory.    |

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Table 2: New Level\_4 requirements

| L4 ID                         | Rel      | RT         | L4 Text   | Clarification                   | Req Type   | req_status  | ver_method  | ver_status         |
|-------------------------------|----------|------------|---|---------------------------------|------------|-------------|-------------|--------------------|
|                               |          | M<br>Key   |   |                                 |            |             |             |                    |
| <u>S-DMS-</u><br><u>33010</u> | <u>A</u> | new        | The GTWAY CI shall provide an interface which will permit a user to submit orders for test data and science algorithm packages.   |                                 | interface  | incremental | <u>test</u> | un-verified        |
| <u>S-DMS-</u><br><u>33020</u> | <u>A</u> | new        | The GTWAY CI shall accept orders for test data and science algorithm packages.  |                                 | interface  | incremental | <u>test</u> | un-verified        |
| <u>S-DMS-</u><br><u>33030</u> | <u>A</u> | new        | The GTWAY CI shall translate the orders for test data and science algorithm packages which it receives into corresponding Distribution Requests for the SDSRV CI.   |                                 | functional | incremental | test        | un-verified        |
| <u>S-DMS-</u><br><u>33040</u> | A        | new        | The GTWAY CI shall submit orders for test data and science algorithm packages as Distribution Requests to the SDSRV CI.   |                                 | interface  | incremental | test        | un-verified        |
| <u>S-DMS-</u><br><u>33050</u> | <u>A</u> | new        | The GTWAY CI shall accept in the V0 processing options, instructions to provide production history information and the ancillary input data associated with a granule, for the granules listed in the V0 request.   |                                 | interface  | incremental | test        | un-verified        |
| <u>S-DMS-</u><br><u>33060</u> | A        | new        | The GTWAY CI shall parse the V0 processing options and translate requests for production history information and ancillary input data contained in these options into corresponding orders for production history and ancillary data to the SDSRV CI, ensuring that no duplicate history files and ancillary granules are being ordered (e.g., if the same history file is referenced by several of the granules listed in the V0 request). |                                 | functional | incremental | <u>test</u> | un-verified        |
| <u>S-DMS-</u><br><u>33070</u> | <u>A</u> | new        | The GTWAY CI shall submit orders for production history and ancillary data to the SDSRV CI.   |                                 | interface  | incremental | <u>test</u> | <u>un-verified</u> |
| <u>S-DMS-</u><br><u>33080</u> | A        | new        | If the V0 processing options specify an order for production history, the GTWAY CI shall also submit a query to the SDSRV CI to obtain the PGE name, PGE version, ancillary granule Ids, orbit parameter file references, and a list of input granule IDs, for each of the granules listed in the V0 request, and return the result via e-mail.   |                                 | interface  | incremental | <u>test</u> | un-verified        |
| S-CLS-<br>10205               | A        | new        | The WKBCH CI shall display the PGE name, PGE version, ancillary granule Ids, orbit parameter file references, and list of input granule Ids returned by the GTWAY CI in response to a request for production history information.   | Satisfied by e-<br>mail viewer. | functional | incremental | test        | un-verified        |
| <u>S-DMS-</u><br><u>33100</u> | <u>A</u> | <u>new</u> | The GTWAY CI shall provide an HTML form ("QA metadata update form") which permits SCF users to update QA metadata.  |                                 | functional | incremental | test        | un-verified        |
| <u>S-DMS-</u><br><u>33110</u> | A        | new        | The GTWAY CI shall parse the QA metadata updates submitted via the QA metadata update form and translate them into insert requests for a database table (QA metadata holding table).  |                                 | functional | incremental | test        | un-verified        |
| <u>S-DMS-</u><br><u>33120</u> | A        | new        | The GTWAY CI shall send an e-mail notification to an e-mail address configurable by ECS operations, notifying the recipient of the arrival of QA metadata updates, and the products and granules affected.  |                                 | functional | incremental | test        | un-verified        |

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| S-DMS-           | <u>A</u> | <u>new</u>      | The GTWAY CI shall insert the QA updates it receives        | <u>interface</u>  | incremental | <u>test</u> | un-verified |
|------------------|----------|-----------------|---|-------------------|-------------|-------------|-------------|
| <u>33130</u>     |          |                 | into a database table (QA metadata holding table).          |                   |             |             |             |
| S-DSS-           | A        |                 | The SDSRV CI shall be capable of receiving QA               | interface         |             |             |             |
| 04595            |          | 9834            | metadata updates from the DESKT CI.                         |                   |             |             |             |
| S-DSS-           | A        |                 | The SDSRV shall provide the capability to allow DAAC        | functional        |             |             |             |
| <del>04596</del> |          | <del>9835</del> | operations personnel to approve the QA metadata update.     |                   |             |             |             |
| S-DSS-           | <u>A</u> | new             | The SDSRV CI shall provide a Motif GUI which permits        | <u>functional</u> | approved    | <u>test</u> | un-verified |
| <u>04597</u>     |          |                 | <u>DAAC</u> operators to view pending QA updates in the QA  |                   |             |             |             |
|                  |          |                 | metadata holding table, select entries for approval, and    |                   |             |             |             |
|                  |          |                 | approve the selected entries for insertion into the product |                   |             |             |             |
|                  |          |                 | <u>inventory.</u>   |                   |             |             |             |
| S-DSS-           | <u>A</u> | new             | The SDSRV CI shall transfer QA updates from the QA          | <u>functional</u> | approved    | <u>test</u> | un-verified |
| 04598            |          |                 | metadata holding table into the inventory table after they  |                   |             |             |             |
|                  |          |                 | have been approved for insertion.                           |                   |             |             |             |

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Table 3: RBR\_TO\_L4s links to be added

| Table 5. RBR_            | _1 O_L-13 IIIIK3 to |
|--------------------------|---------------------|
| RbR ID                   | L4 ID               |
| SCF-0100#A               | S-DMS-33010         |
| SCF-0100#B               | <u>S-DMS-33010</u>  |
| DADS2380#A               | S-DMS-33010         |
| DADS2380#B               | S-DMS-33010         |
| SCF-0100#A               | S-DMS-33020         |
| SCF-0100#B               | S-DMS-33020         |
| DADS2380#A               | S-DMS-33020         |
| DADS2380#B               | S-DMS-33020         |
| SCF-0100#A               | S-DMS-33030         |
| SCF-0100#B               | S-DMS-33030         |
| DADS2380#A               | S-DMS-33030         |
| <u>D</u> ADS2380#B       | S-DMS-33030         |
| SCF-0100#A               | S-DMS-33040         |
| SCF-0100#B               | S-DMS-33040         |
| DADS2380#A               | S-DMS-33040         |
| DADS2380#B               | S-DMS-33040         |
| SCF-0380#A               | S-DMS-33050         |
|                          | S-DMS-33050         |
| SCF-0310#A<br>SCF-0380#B |                     |
|                          | _                   |
| SCF-0310#B               | S-DMS-33050         |
| DADS2380#A               | S-DMS-33050         |
| DADS2380#B               | S-DMS-33050         |
| SCF-0380#A               | S-DMS-33060         |
| SCF-0310#A               | S-DMS-33060         |
| SCF-0380#B               | <u>S-DMS-33060</u>  |
| <u>SCF-0310#B</u>        | <u>S-DMS-33060</u>  |
| <u>DADS2380#A</u>        | <u>S-DMS-33060</u>  |
| <u>DADS2380#B</u>        | <u>S-DMS-33060</u>  |
| SCF-0320#A               | <u>S-DMS-33070</u>  |
| SCF-0310#A               | S-DMS-33070         |
| SCF-0320#B               | <u>S-DMS-33070</u>  |
| SCF-0310#B               | <u>S-DMS-33070</u>  |
| <u>D</u> ADS2380#A       | <u>S-DMS-33070</u>  |
| <u>D</u> ADS2380#B       | S-DMS-33070         |
| SCF-0380#A               | <u>S-DMS-33080</u>  |
| SCF-0380#B               | S-DMS-33080         |
| DADS2380#A               | S-DMS-33080         |
| DADS2380#B               | S-DMS-33080         |
| SCF-0380#A               | S-CLS-10205         |
| SCF-0380#B               | S-CLS-10205         |
| DADS2380#A               | S-CLS-10205         |
| DADS2380#B               | S-CLS-10205         |
| SCF-0250#A               | S-DMS-33100         |
| SCF-0240#A               | S-DMS-33100         |
| SCF-0250#B               | S-DMS-33100         |
| SCF-0240#B               | S-DMS-33100         |
| PGS-1130#A               | S-DMS-33100         |
| PGS-1130#A               | S-DMS-33100         |
| 1 05-1130#D              | <u>5</u> DW15-33100 |

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| SCF-0250#A         | <u>S-DMS-33110</u> |
|--------------------|--------------------|
| SCF-0240#A         | <u>S-DMS-33110</u> |
| SCF-0250#B         | <u>S-DMS-33110</u> |
| SCF-0240#B         | S-DMS-33110        |
| PGS-1130#A         | S-DMS-33110        |
| PGS-1130#B         | S-DMS-33110        |
| SCF-0250#A         | S-DMS-33120        |
| SCF-0240#A         | S-DMS-33120        |
| SCF-0250#B         | S-DMS-33120        |
| SCF-0240#B         | S-DMS-33120        |
| PGS-1130#A         | <u>S-DMS-33120</u> |
| PGS-1130#B         | <u>S-DMS-33120</u> |
| SCF-0250#A         | <u>S-DMS-33130</u> |
| SCF-0240#A         | S-DMS-33130        |
| SCF-0250#B         | <u>S-DMS-33130</u> |
| SCF-0240#B         | <u>S-DMS-33130</u> |
| PGS-1130#A         | <u>S-DMS-33130</u> |
| PGS-1130#B         | <u>S-DMS-33130</u> |
| SCF-0250#A         | <u>S-DSS-04597</u> |
| SCF-0240#A         | <u>S-DSS-04597</u> |
| SCF-0250#B         | <u>S-DSS-04597</u> |
| SCF-0240#B         | <u>S-DSS-04597</u> |
| <u>DADS0010#A</u>  | <u>S-DSS-04597</u> |
| <u>DADS0010#B</u>  | <u>S-DSS-04597</u> |
| <u>D</u> ADS0020#A | <u>S-DSS-04597</u> |
| <u>DADS0020#B</u>  | <u>S-DSS-04597</u> |
| PGS-1130#A         | <u>S-DSS-04597</u> |
| <u>PGS-1130#B</u>  | <u>S-DSS-04597</u> |
| SCF-0250#A         | <u>S-DSS-04598</u> |
| SCF-0250#B         | <u>S-DSS-04598</u> |
| <u>DADS0010#A</u>  | <u>S-DSS-04598</u> |
| <u>DADS0010#B</u>  | <u>S-DSS-04598</u> |
| <u>DADS0020#A</u>  | <u>S-DSS-04598</u> |
| <u>DADS0020#B</u>  | <u>S-DSS-04598</u> |
|                    |                    |